



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------|-------------|----------------------|---------------------|------------------|
| 09/802,949 | 03/12/2001 | Yen-Kuen Shiau | 239C | 4797 |
| 7590 10/30/2003 | | | | |
| EXAMINER | | | | |
| HRUSKOCI, PETER A | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 1724 | | | | |

Alice L. Chen
3013 Birchtree Lane
Silver Spring, MD 20906

DATE MAILED: 10/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | | |
|------------------------------|--------------------------------------|--|-------------------------------------|--|
| Office Action Summary | Application No. 09/802,949 | | Applicant(s) SHIAU ET AL. | |
| | Examiner Peter A. Hruskoci | | Art Unit 1724 | |
| | | | | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 8-15-03.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-4, 8, 9, and 11 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-4, 8, 9 and 11 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

| | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____ |
|---|--|

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: It does not identify the US applications and foreign application for patent on which priority is claimed, by specifying the application number, country, day, month and year of its filing, as disclosed on page 1 of the instant specification.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 8, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nice in view of Delphia. Nice disclose (see col. 1 line 32 through col. 2 line 61) a process for treating contaminated water with sand coated with a silver compound substantially as claimed. The claims differ from Nice by reciting that the sand is utilized in a specific water tank. Delphia disclose (see col. 3 line 46 through col. 4 line 75) that it is known to utilize sand as a filter material in a tank, and pass water downwardly through the sand to remove impurities from the water. It would have been obvious to one skilled in the art to modify the process of Nice by utilizing the recited water tank in view of the teachings of Delphia, to aid in removing impurities from the water. With regard to claim 11, it is submitted that Delphia as applied above appears to suggest the use of cylindrical basket 60 provided with a wire screen bottom to encase the sand filter bed.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nice in view of Delphia as above, and further in view of Hansen et al.. The claim differs from the references as applied above by reciting that the water is introduced at the outlet, and passed upwardly through the filter, to provide clean water at the inlet. Hansen et al. disclose (see col. 5 line 18 through col. 6 line 39) that it is known to utilize germicidal filter materials in both the traditional downflow filtration as well as upflow filtration. It would have been obvious to one skilled in the art to modify the references as applied above by introducing water at the outlet in view of the teachings of Hansen et al., to aid in removing impurities from the water by upflow filtration.

Applicants argue that Nice reduces the silver coating compound to elemental silver, and applicant's filter does not involve the reduction of silver nitrate to elemental silver. It is noted that the reduction step utilized in Nice is not excluded from the instant claims. Furthermore, it would appear that the sand utilized in Nice would include a coating of at least some silver nitrate.

Applicants allege Nice never suggests calcining the silver coating sand above 800 °C as in the instant invention. It is submitted that the lower limit of the temperature range recited in claim 1 is disclosed in Nice. It is noted the temperatures used in Nice do not appear to be limited to 800 °C and appear to include temperatures up to 961 °C. Furthermore, applicants have not provided sufficient factual evidence to support the above allegation.

Applicants argue that none of the references cite the specific quaternary ammonium salt as claimed in the present invention. It is submitted that none of the instant claims are limited to the use of the specific quaternary ammonium salt. It is noted that claim 2 further limits the Markush group of claim 1 and not the specific antimicrobial sand that is used.

Applicants argue that none of the references show or suggest a mesh case for containing the filter as claimed in the present invention. It is submitted that Delphia as applied above was used to suggest the use of cylindrical basket 60 provided with a wire screen bottom to encase the sand filter bed.

Claim 1 properly written to include antimicrobial sand coated with the quaternary ammonium salt of claim 2, and prepared by mixing aluminum oxide with water, adding acid to form a gelatinous solution, immersing sand in the gelatinous solution, calcining the sand at 400 to 1500°C, and impregnating the calcined sand with a solution of the quaternary ammonium salt— as disclosed on page 6 lines 3-18 of the instant specification would be allowable.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter A. Hruskoci whose telephone number is 703-308-3839. The examiner can normally be reached on Monday through Friday from 6:30AM-4:00PM.


Application/Control Number: 09/802,949

Page 5

Art Unit: 1724

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on 703-308-1261. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Peter A. Hruskoci
Primary Examiner
Art Unit 1724

10/28/03